

Two new species of *Microphorella* Becker (Diptera: Dolichopodidae) from the Mediterranean

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Two new species of *Microphorella* Becker (Diptera: Dolichopodidae) from the Mediterranean. - Two new species of *Microphorella* Becker are described from the Mediterranean – *Microphorella ebejeri* sp. n. from Israel, and *Microphorella mamillata* sp. n. from Tunisia.

Keywords: Diptera - Dolichopodidae - Parathalassiinae - *Microphorella* - new species - Mediterranean.

INTRODUCTION

Microphorella Becker is one of a small group of genera, both fossil and extant, which are currently placed in the subfamily Parathalassiinae of the Dolichopodidae *s. lato* (Ulrich, 2003; Sinclair & Cumming, 2006). The taxon was first proposed by Becker (1909) as a subgenus of *Microphor* Macquart, 1827. It currently comprises 18 named species of which seven are Nearctic (Melander, 1928; Brooks & Cumming, 2012), six Palaearctic (Chvála, 1988; Gatt, 2003, 2011; Shamshev, 2004), four Oriental (Shamshev & Grootaert, 2004) and one Australian (Colless, 1963). Four species - *M. curtipes* (Becker, 1910) (north Italy, Corsica & Sardinia), *M. ulrichi* Gatt, 2003 (Tunisia & Morocco), *M. merzi* Gatt, 2003 (Malta, Cyprus & Turkey) and *M. cassari* Gatt, 2011 (Tunisia) - are currently known from the Mediterranean, the latter three exclusively so. A further two, closely related species, one from Israel and another from Tunisia are described here. More undescribed species are known from the Mediterranean (Gatt, in prep.) and it is becoming increasingly apparent that this sub-region is a biodiversity hotspot for the genus.

Microphorella belongs to a group of four genera which includes *Thalassophorus* Saigusa, 1986, *Chimerothalassius* Shamshev & Grootaert, 2002 and *Eothalassius* Shamshev & Grootaert, 2005. At present it remains poorly defined and may be paraphyletic with respect to at least *Eothalassius* and *Thalassophorus* (Cumming & Brooks, 2006). Species of *Microphorella* are minute, cryptic flies with inconspicuous habits and which blend perfectly well with their surroundings (sandy beaches, gravel and sand in river beds, and moist rocks in streams). They are therefore often overlooked and poorly represented in collections.

MATERIAL AND METHODS

All specimens treated in this article were either collected by Bernhard Merz (Muséum d'histoire naturelle, Genève) in Israel in March 1995, or by the author in Tunisia in April 2000.

Temporary slide mounts of the abdomen and terminalia were prepared in Berlese fluid, as described by Disney (1983). Drawings were made with the aid of a x250 stereomicroscope and a built-in ocular grid. For some figures (Figs 4-5, 7-8, 11-12) a compound microscope was also employed. Drawings of complex structures made from slide mounts studied in transmitted light (e.g. Fig. 4) fail to make a clear distinction between internal and external structures, and cannot show how the various parts are interconnected.

In descriptions of the abdomen and hypopygium, the terms “dorsal” and “ventral”, and “left” and “right” refer to the morphological position *after* genital rotation and flexion, i.e. as they appear in the intact specimen.

The following abbreviations are used in figures 1-12:

ap	ventral appendage of left epandrial lamella
as	accessory sclerites of genital fork (sternite 9)
C	female cercus
Ce	male right cercus
ds	dorsal sclerite of genital fork (sternite 9)
fo	foramen from segment 8
HA	hypandrium
hs10	female abdominal hemisternite 10
ht8	female abdominal hemitergite 8
ht10	female abdominal hemitergite 10
LEP	left epandrial lamella
ls	lateral sclerite of genital fork (sternite 9)
PH	phallus
REP	right epandrial lamella
s5-s8	abdominal sternites 5-8
t5- t7	abdominal tergites 5-7
vs	ventral sclerite of genital fork (sternite 9)

The holotype labels are cited verbatim. The text of each separate label is enclosed in quotation marks, whilst individual lines on each label are separated by slash lines.

All specimens are deposited at the Muséum d'histoire naturelle, Genève (MHNG).

The terminology used in this account follows Merz & Haenni (2000). Homologies for the male terminalia follows Sinclair (2000).

TAXONOMIC TREATMENT

Microphorella ebejeri sp. n.

Figs 1-8

MATERIAL EXAMINED: Holotype ♂; “ISRAEL/Bor Mashash/16.III.1995/leg. B. Merz”; “HOLOTYPUS / *Microphorella / ebejeri* Gatt.” (MHNG). The holotype is double mounted on pins. One wing is glued to a piece of card, and the pre-abdomen (with part of the thorax attached) and the hypopygium are stored in a glycerine microvial. Both card and microvial are pinned with the rest of the specimen.

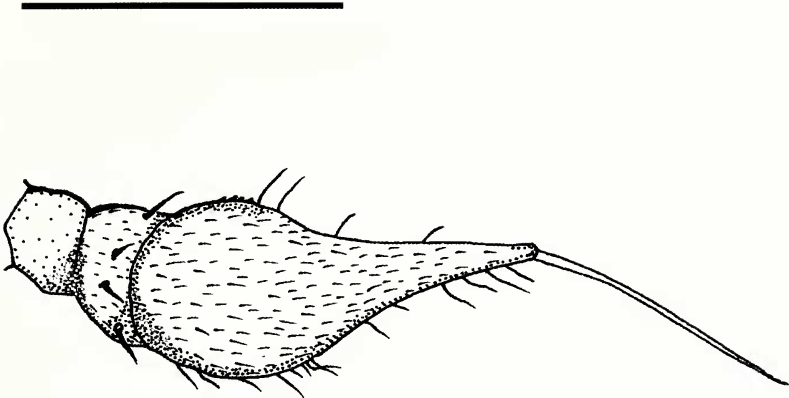


FIG. 1

Microphorella ebejeri sp. n. ♂ antenna, lateral view. Scale bar = 0.1mm.

Paratypes: 1 ♀, same data as holotype (MHNG).- 2 ♀ ♀, ISRAEL, Tel Aviv Country Club, beach, 14.III.1995, leg. B. Merz (MHNG).

ETYMOLOGY: This species is dedicated to my dear friend and colleague Dr. Martin J. Ebejer (Cardiff, UK) in celebration of 20 years of friendship and collaboration.

DIAGNOSIS: A small (1.7 mm), whitish-grey microtrichose, sexually dimorphic species with white macrosetae and clear wings. Wing membrane between C and R₁ yellowish. Postpedicel pear-shaped. Stylus long, as long as postpedicel. One pair of fronto-orbital setae. Eight pairs of dorsocentral setae. Male: anterior costal margin with long, spine-like setae at middle; fore femur with a long posteroventral seta on apical third; fore and mid-tibia, posteriorly, with long setae; mid-femur ventrally densely clothed with short setulae and some long setae; mid-basitarsus bowed laterally, ventrally with a long row of hook-like spinules. Hypandrium without mamillary process at caudal pole. Female: tergite 8, tergite 10 and sternite 10 completely divided; hemitergite 10 bearing unmodified setae.

DESCRIPTION

Male

Length: Body 1.7 mm, wing 1.7 mm (specimen dry).

Head: Black in ground colour, grey microtrichose with brownish tints; higher and wider than deep. Eyes widely separated on frons, ommatidia equal in size, sparsely covered with minute ommatrichia. Neck inserted high on head. Occiput grey microtrichose with some brownish hues; projecting beyond posterior margin of eye, concave above neck, convex below. Frons broad, whitish grey microtrichose with some brownish hues and metallic reflections. Gena very narrow. Face black, grey micro-

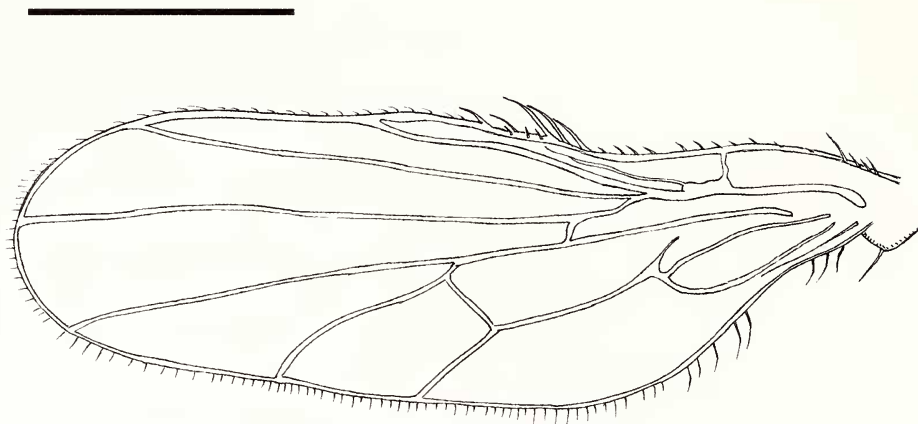


FIG. 2

Microphorella ebejeri sp. n. ♂ wing. Scale bar = 0.5mm.

trichose; long and narrow, narrower than frons above antennae, widening towards mouth edge. Antenna (Fig. 1) black in ground colour and clothed with pale setulae; placed at middle of head in profile, and as long as head is deep; scape cup-shaped, pedicel globular, subequal in length to scape, sparsely grey microtrichose and with a circle of subapical setulae; postpedicel pear-shaped, more intensely and brown microtrichose, setulose; stylus uniaarticulate, long, subequal in length to postpedicel. Labrum very short, almost completely concealed within oral cavity; lustrous black, curving caudally. Palpus very small, grey microtrichose, with some long white setulae; sensory pit not discernable. Chaetotaxy: cephalic setae white; one pair of strong, lateroconate anterior ocellars; one pair of very short, proconate posterior ocellars; one pair of strong inclinate anterior fronto-orbitals; one pair of long, inclinate medial verticals; one pair of lateroconate lateral verticals; postocular occipital setae uniserial above neck, becoming longer and irregularly multiserial below; several longer setae present just posterior to mouth opening, including postgena.

Thorax: Black in ground colour, generally whitish grey microtrichose; scutum, viewed anteriorly from above with a distinct, golden brown microtrichose longitudinal stripe between dorsocentral rows; similar stripes one on each side of scutum; viewed posteriorly from above with 4 dull-grey, less microtrichose longitudinal stripes (2 medially, and one on each side) which become confluent anteriorly; dorsal surface of scutum moderately arched; prescutellar depression distinct; complete prothoracic precoxal bridge present. Anepisternum greyish brown microtrichose. Chaetotaxy: thoracic setae white. Anteprenotum with 4 setulae. Propleuron with 1 setula. Postpronotum with 3 very short setulae. A single pair of long acrostichal setae on anterior slope of mesoscutum. Eight (4+4) pairs of more or less equal sized dorsocentral setae, 1 pre-

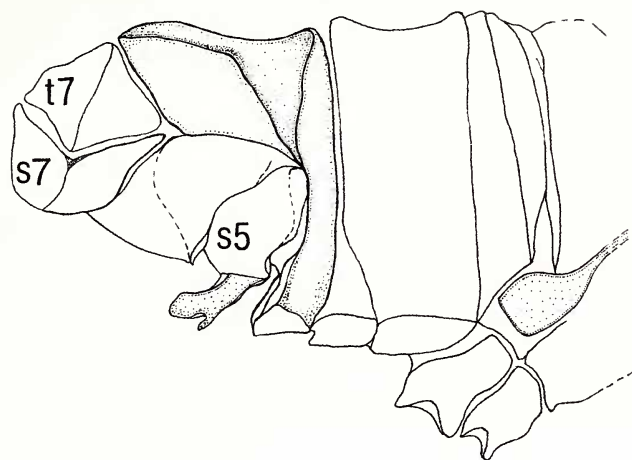


FIG. 3

Microphorella ebejeri sp. n. ♂ abdomen, right lateral view. Scale bar = 0.5mm. Abbreviations explained in the text.

scutellar pair longer, wider apart, and as strong as 1 pair of long, inclinate scutellar setae; 3 supra-alar setae, the posterior-most longest; preceded by a row of 3 minute setulae; 2-3 additional minute setulae outside supra-alar line; 1 postalar seta; 3 notopleural setae.

Legs: Long and slender, black in ground colour, greyish microtrichose and clothed with short, white setulae; trochanters, apices of femora and all tibiae and tarsi paler. Femora equally thick, not much stronger than tibiae. Fore and hind basitarsi as long as following tarsal segments combined; mid-basitarsus longer. Fore coxa densely clothed with white setulae and some longer setae. All tarsomeres with short, black, spine-like subapical setae, stronger and in groups of 4 on middle segments. Tarsal claws, pulvilli and empodium developed on all legs. Fore femur with 1 long postero-ventral seta in apical third; some longish setae near apex and at base. Fore tibia with a posterodorsal row of 8-10 long posteriorly curved setae; bearing anterior apical comb; pigmented spinulated tubercles absent. Mid-femur with a dense tuft of very short setulae along middle third of ventral surface, and with a fringe of 8 long pale ventral setae, as long as or longer than femur is deep. Mid-tibia, posteriorly, with 2 long setae; one spine-like subapical seta. Mid-basitarsus, ventrally, with 2 white spine-like setae at base and another 2 long, black, spine-like setae at apex; curved, convex laterally, and with a long row of some 23 short ventral spinules having curved, hook-like apices. Hind leg simple. Hind femur anteroventrally with some longer setae. Hind tibia with an apical posterior comb of closely set spinules. Hind basitarsus with an apical posterior comb of short setae.

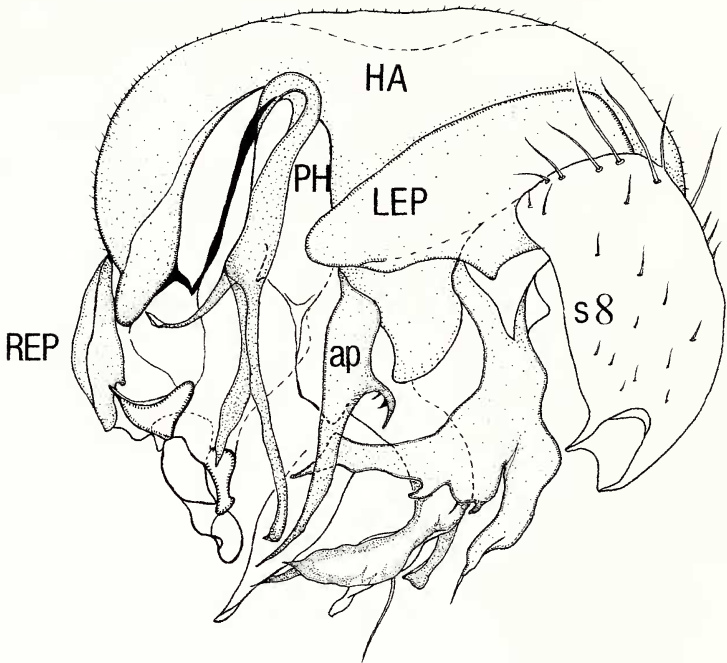


FIG. 4

Microphorella ebejeri sp. n. ♂ hypopygium and sternite 8, viewed from the left. Scale bar = 0.5mm. Abbreviations explained in the text.

Wing (Fig. 2): Three times longer than broad; axillary lobe hardly developed; wing membrane clear; space between C and R₁ yellowish; membrane, including veins, covered with microtrichia; veins brown; macrosetae white; hind marginal fringe longest at base of wing. C circumambient, with 1 basal seta preceded by 3 shorter setae; anterior costal margin with a row of spine-like setae, very long and strong at middle of wing; longest seta as long as crossvein DM-Cu. Sc parallel to R₁, upturning to C before merging imperceptibly into membrane as a fold; humeral crossvein indistinct; Rs originating opposite humeral crossvein; R₁ ending in C beyond tip of discal cell; R₂₊₃ straight, upcurved at its junction with C; R₄₊₅ sinuous, ending in C before tip of wing; crossvein R-M present; discal cell incompletely separated from second basal cell by incomplete crossvein BM-Cu, closed distally by crossvein DM-Cu and emitting 3 veins to wing margin; base of M₂ complete; crossvein DM-Cu complete; CuA₂ curved; A₁ absent; A₂ present on posterobasal margin of wing. Alula absent. Squama brown, short, with a fringe of long, pale setae. Haltere brown, stem darker than knob, the latter large and quadrate.

Abdomen (Fig. 3): Brownish black in ground colour, less intensely grey microtrichose than thorax; sclerites with sparse, white setulae on posterior margins and

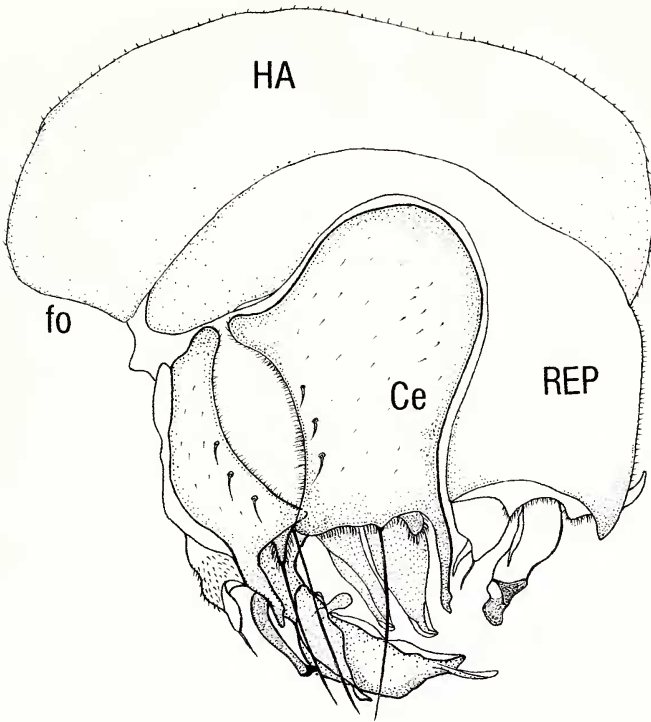


FIG. 5

Microphorella ebejeri sp. n. ♂ hypopygium, viewed from the right. Scale bar = 0.5mm. Abbreviations explained in the text.

on disc. Abdominal muscle plaques distinct. Tergites 1-4 and sternites 1-3 unmodified. Postabdomen beginning with sternite 5, rotated and lateroflexed to the right. Sternites 1 and 2 short; sternite 3 with long setae on posterior margin; sternite 4 with a postero-median membranous area, fringed on each side with a number of long setae; long setae present also on posterior margin of sclerite. Sternites 5 and 6 mostly lustrous brown. Sternite 5 short, bare, with a robust, well sclerotised, bifid posteromedian projection; well-developed ventral tubercle present at point of bifurcation. Sternites 6 and 7 simple, bare; sternite 8 large, subrectangular. Tergite 8 atrophied. Terminalia (Figs 4-5) lateroflexed to the right, inverted and with caudal pole directed forward, asymmetrical. Hypandrium large, separated from epandrium, distinctly produced at apex and with several accessory processes, microtrichose; without mamillary process at caudal pole. Ventral appendage of left epandrial lamella asymmetrical, with two arms: the right arm long and pointed; the left arm short, arcuate, its concave margin with 2 tooth-like processes. Cerci large, the right cercus larger, both clothed with setulae; each with 3 short, inclinate spine-like setae medially; apicolateral corners produced. Left cercus with medial margin smoothly rounded; apicolateral corner long and slender;

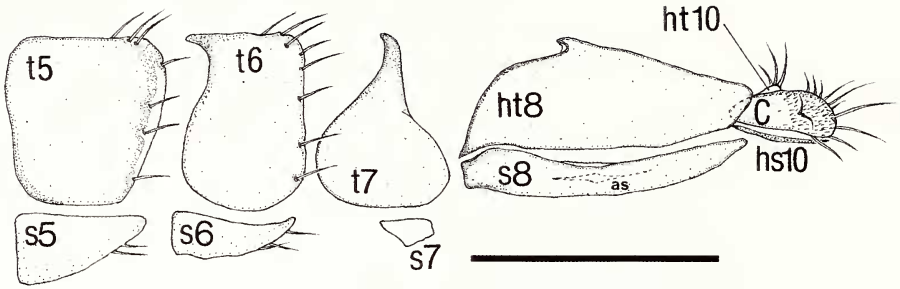


FIG. 6

Microphorella ebejeri sp. n. ♀ abdomen, lateral view (stretched, membranes and spermatheca omitted). Scale bar = 0.3mm. Abbreviations explained in the text.

1 very long hair-like seta on apical margin, and another long seta arising from a setulose, mamillary process. Right cercus with (seemingly) only 1 long seta arising from apical margin; setulose mamillary process devoid of long setae. Phallus directed forwards, apex pointed; dorsal surface with 2 processes, the superior curved to the right, the inferior straight, flat and pointed.

Female

Length: Body 1.5 – 1.7 mm (n=2); wing 1.3 – 1.5 mm (n=2). Specimens dry.

Resembling male, including dichoptic condition of eyes and apical combs on fore and hind tibia and hind basitarsus, but differing in the following:

Body less intensely microtrichose. Cephalic and thoracic macrosetae longer, stronger. Median golden-brown microtrichose stripe on scutum divided into 2 separate narrower vittae. All legs with short, undifferentiated setulae. No differentiated spine-like setae on anterior margin of costa near middle of wing. Abdomen (Figs 6-7): gradually tapering, segments 1-6 grey microtrichose, forming preabdomen. Segment 7 concealed internally. Segment 8 partly retracted into segment 7, partly exposed, forming 'ovipositor'; lustrous brown and contrasting strongly with preceding microtrichose segments. Terminalia not acanthophorous. Tergite 1 short, tergites 2-4 normal. Tergites 5 and 6 with a fringe of long setae on posterior margin. Tergite 7 bare, very narrow dorsally, broadly emarginate anteriorly and posteriorly, and broadening widely as it extends laterally. Tergite 8 long, emarginate anteriorly, divided medially into 2 hemitergites; apices of hemitergites divergent. Tergite 10 minute and barely sclerotised, fused to cerci, divided into 2 hemitergites each bearing 3 long setae not forming spines. Sternite 1 short. Sternites 2-4 normal. Sternites 5 and 6 with a fringe of longer setae on posterior margin. Sternite 7 short, poorly sclerotised. Sternite 8 long, produced posteriorly, depigmented posteromedially; genital fork (= sternite 9) represented by a single ventral and paired dorsal and lateral accessory sclerites. Sternite 10 divided into 2 sinuous, strap-like hemisternites. Cercus long, microtrichose, bearing long setae of varying lengths on dorsal and lateral surfaces, longest at tip; in addition bearing numerous setulae on apical half. Spermatheca (Fig. 8) short tubular with tracheated surface.

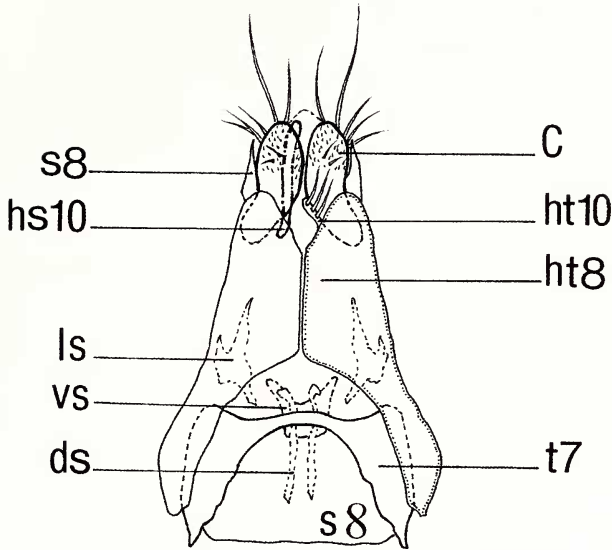


FIG. 7

Microphorella ebejeri sp. n. ♀ tip of abdomen, with (internally) parts of genital fork, dorsal view (right ht10 and left hst 10 omitted). Scale bar = 0.3mm. Abbreviations explained in the text.

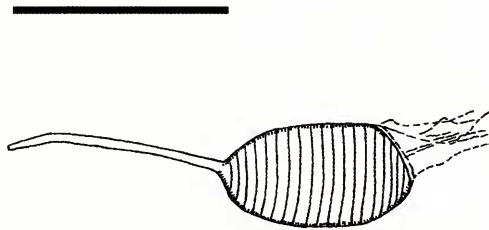


FIG. 8

Microphorella ebejeri sp. n. ♀ spermatheca, lateral view. Scale bar = 0.1mm.

BIOLOGY: Unknown. All specimens were collected from inland sand dunes and a sandy beach, suggesting that the species is psammophilous.

DISTRIBUTION: Hitherto known only from two localities in Israel.

REMARKS: This species was previously reported from Israel as probably new but not formally described (Gatt, 2003).

Microphorella mamillata sp. n.

Figs 9-12

MATERIAL EXAMINED: Holotype ♂; "TUNISIA: Tabarka/Nefza-Zouara/coastal dunes/21.iv.2000/ P. Gatt"; "HOLOTYPUS / *Microphorella / mamillata* Gatt" (MHNG). The holotype is preserved in alcohol, and is in good condition.

Paratype ♂: TUNISIA; Gulf of Gabes, Hachichina, Khaouala, coastal steppe, 25.iv.2000, P. Gatt (MHNG).

ETYMOLOGY: The specific name *mamillata* refers to the characteristic mamillary process which is present at the caudal pole of the hypandrium of this species.

DIAGNOSIS: A small (1.6 mm), whitish-grey microtrichose species with white macrosetae and clear wings. Wing membrane between C and R₁ yellowish. Postpedicel pear-shaped. Stylus long, as long as postpedicel. Two pairs of fronto-orbital setae. Five pairs of dorsocentral setae. Male: anterior costal margin with long, spine-like setae at middle; fore-femur with a long posteroventral seta on apical third; fore and mid-tibia, posteriorly, with long setae; mid-femur, ventrally, densely clothed with short setulae and some long setae; mid-basitarsus bowed laterally, ventrally with a long row of hook-like spinules. Hypandrium with mamillary process at caudal pole.

DESCRIPTION

Male

Length: Body 1.6 mm, wing 1.4 mm (specimen in alcohol).

Head: Black in ground colour, whitish-grey microtrichose, higher and wider than deep. Eyes widely separated on frons, ommatidia equal in size, sparsely covered with minute ommatrichia. Neck inserted at middle of head. Occiput greyish microtrichose with some brownish tints and metallic reflections, projecting beyond posterior margin of eye, concave above neck, convex below. Frons broad, whitish grey microtrichose with some brownish hues and metallic reflections. Gena very narrow. Face brown microtrichose, long and narrow, narrower than frons above antennae, widening towards mouth edge. Clypeus convex, grey microtrichose. Antenna (Fig. 9) black in ground colour and clothed with short, pale setulae; placed at middle of head in profile, and as long as head is deep; scape cup-shaped; pedicel globular; subequal in length to scape, sparsely grey microtrichose, and with a cirlet of subapical setulae; postpedicel long, bulbous in basal half; stylus uniaarticulate, long, subequal in length to postpedicel. Labrum very short, brown, projecting forward. Palpus small, grey microtrichose and bearing some long and short setulae; sensory pit not discernable. Chaetotaxy: cephalic setae white, thick and flattened; one pair of strong, laterocline anterior ocellars; one pair of weak, laterocline posterior ocellars; one pair of minute postocellars; one pair of strong inclinate anterior fronto-orbitals, as strong as anterior ocellars; one pair of shorter, inclinate posterior fronto-orbitals; one pair of long, inclinate medial verticals; one pair of shorter, laterocline lateral verticals; postocular occipital setae uniserial above neck, becoming longer and irregularly multiserial below; several longer setae present just behind mouth opening, including postgena.

Thorax: Black in ground colour, generally whitish grey microtrichose; scutum, viewed anteriorly from above with 4 narrow, less microtrichose longitudinal stripes (2 medially and 1 on each side of scutum); viewed posteriorly from above, medial longitudinal stripes very broad. Dorsal surface of mesoscutum moderately arched;

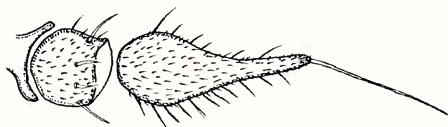


FIG. 9

Microphorella mamillata sp. n. ♂ antenna, lateral view. Scale bar = 0.1mm.

prescutellar depression distinct; complete prothoracic precoxal bridge present. Anepisternum bare, greyish brown microtrichose. Chaetotaxy: thoracic setae white, rather thick and flattened. Antepronotum with 4 setulae. Propleuron with one pair of very short setulae. Postpronotum with 3-4 very short setulae. A single pair of long, acrostichal setae on anterior slope of mesoscutum. Five (2+3) pairs of subequal dorso-central setae, the prescutellar pair longer, wider apart, and shorter than 1 pair of long, inclinate scutellar setae; dorsocentral setae preceded by 1-2 shorter setulae; 3 short supra-alar setae, the posteriormost longest; additional setulae present both inside and outside supra-alar row; 1 postalar seta; 3 notopleural setae.

Legs: Long and slender, black in ground colour, greyish microtrichose and clothed with short, white setulae; trochanters, apices of femora and all tibiae and tarsi paler, brownish. Femora equally thick, not much stronger than tibiae. Basitarsi shorter than following tarsal segments combined. Fore coxa densely setulose; mid-coxa with some long setulae. Hind trochanter with 1 short, ventral seta. All tarsomeres with short, spine-like subapical setae, stronger and in groups of 4 on middle segments. Tarsal claws, pulvilli and empodium developed on all legs; pulvilli and empodium haired. Fore femur with 1 long posteroventral seta in apical third; some longish setae near apex and at base. Fore tibia with a posterior row of 8 long posteriorly curved setae, as long as or longer than greatest width of tibia; bearing anterior apical comb; pigmented spinulated tubercles absent. Mid-femur with a dense tuft of very short setulae along middle third of ventral surface, and with a fringe of 10 long pale ventral setae, as long as or longer than femur is deep. Mid-tibia with a posterior row of 4-5 long setae, and one spine-like subapical seta. Mid-basitarsus with 2 black spine-like setae ventrally at base; curved laterally, and with a long row of some 23 short ventral spinules having curved, hook-like apices. Hind leg simple. Hind femur with a dorsal row of longer setae. Hind tibia with an apical posterior comb of closely set spinules. Hind basitarsus with an apical posterior comb of short setae.

Wing: Very similar to previous species, 3.5 times longer than broad, axillary lobe hardly developed; wing membrane clear; space between C and R₁ brown; membrane, including veins, covered with microtrichia; macrosetae white; hind marginal fringe longest at base of wing; wing veins brown, stigma absent; C circumambient; C with 3 short basal setae, anterior costal margin with a row of spine-like setae, very long

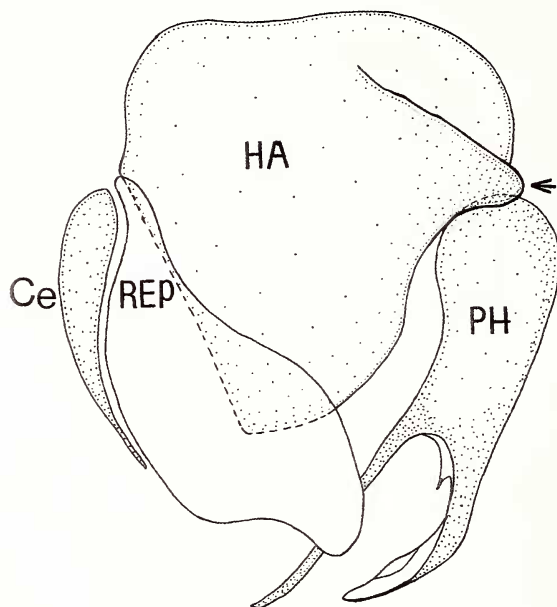


FIG. 10

Microphorella mamillata sp. n. ♂ hypopygium, dorsal view from the right. Scale bar = 0.5mm. Arrow: mamillary process of hypandrium. Abbreviations explained in the text.

and stronger at middle of wing; longest seta as long as crossvein DM-Cu. Sc parallel to R_1 , upturning to C before merging imperceptibly into membrane; humeral crossvein indistinct; R_s originating opposite humeral crossvein; R_1 sinuous, meeting C beyond tip of discal cell; R_{2+3} sinuous, upcurved at its junction with C; R_{4+5} almost straight, downturned to C and ending in C before tip of wing; crossvein R-M present, discal cell incompletely separated from second basal cell by incomplete crossvein BM-Cu, closed distally by crossvein DM-Cu and emitting 3 veins to wing margin; base of M_2 complete; crossvein DM-Cu complete; CuA_2 curved; A_1 absent; A_2 present on posterobasal margin of wing. Alula absent. Squama brown, short, with a fringe of long, pale hairs. Knob of haltere large, quadrate, brown with white margins; stem of haltere darker than knob.

Abdomen: Black in ground colour, brownish-grey microtrichose; sclerites with sparse, white setulae on posterior margins and on disc. Abdominal muscle plaques distinct. Tergites 1-4 and sternites 1-3 unmodified. Tergite 7 not setulose. Postabdomen beginning with sternite 5, rotated and lateroflexed to the right. Sternites 1 and 2 short; sternite 3 without long setae on posterior margin; sternite 4 with a posteromedian mem-

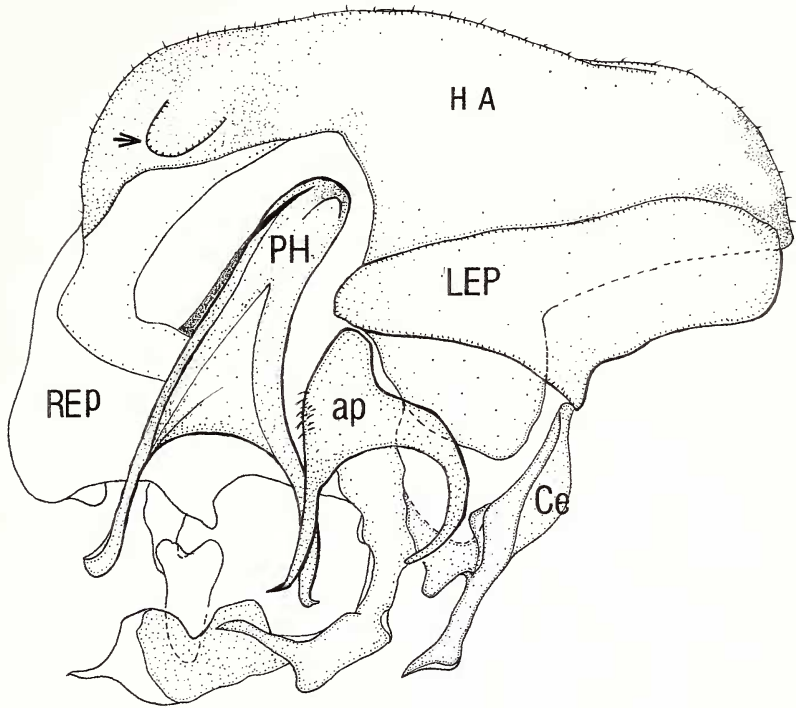


FIG. 11

Microphorella mamillata sp. n. ♂ hypopygium viewed from the left (postgonites omitted). Scale bar = 0.5mm. Arrow: mamillary process of hypandrium. Abbreviations explained in the text.

branous area, fringed on each side with a number of long setae; long setae present also on posterior margin of sclerite. Sternite 5 short, bare, with a robust, sclerotised, bifid posteromedian projection; tips of bifurcation broadly membranous; ventral tubercle at point of bifurcation hardly developed. Sternites 6 and 7 bare, simple. Sternite 8 large, subrectangular, subshining and bearing very long setulae on posterior margin and shorter setulae on disc; tergite 8 atrophied. Terminalia (Figs 10-12) lateroflexed to the right, inverted and with caudal pole directed forward, asymmetrical. Hypandrium large, separated from epandrium, produced at apex and with several accessory processes, subshining; bearing distinct mamillary process at caudal pole, pointing to the left (Fig. 10 arrow). Ventral appendage of left epandrial lamella more or less symmetrical, with two arms: the right arm setulose at middle; the left arm without tooth-like processes on concave margin. Cerci large, the right cercus larger, both setulose; each with 3 short, inclinate spine-like setae medially; apicolateral corners produced. Left cercus with medial margin not smoothly rounded; apicolateral corner long and

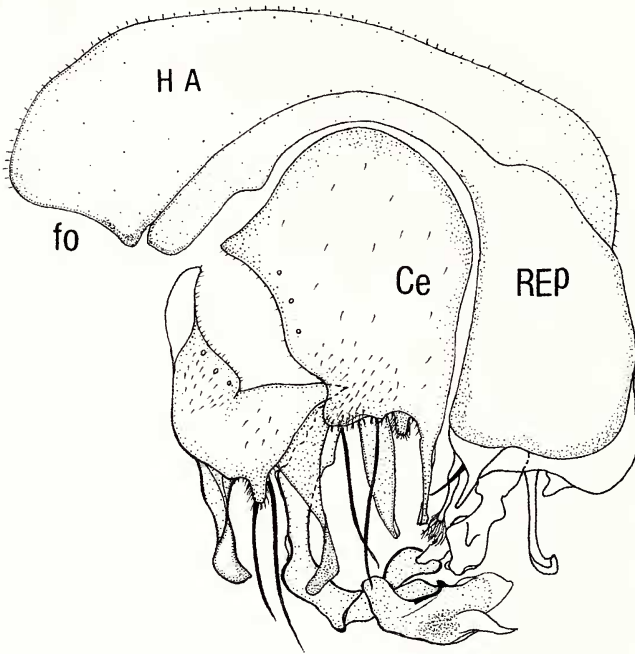


FIG. 12

Microphorella mamillata sp. n. ♂ hypopygium viewed from the right (postgonites omitted). Scale bar = 0.5mm. Abbreviations explained in the text.

broad, spatulate; 1 very long hair-like seta on apical margin, and another long seta arising from a setulose, mamillary process. Right cercus with 2 long, hair-like setae arising from apical margin. Phallus directed forwards, apex pointed; dorsal surface bearing 1 broad, arcuate expansion.

Variation: Paratype: postocellar setae absent; the 4 narrow, less microtrichose stripes present on the scutum of the holotype are absent, and are replaced by 2 narrow, brown microtrichose longitudinal stripes along dorsocentral lines.

Female: unknown.

BIOLOGY: Unknown. Specimens were collected from coastal sand dunes and steppes suggesting that the species inhabits sandy, coastal biotopes.

DISTRIBUTION: Hitherto known only from two localities in Tunisia, the Tabarka embayment and the gulf of Gabes.

DISCUSSION

The two new species described in this article share a set of unique and remarkable morphological characters with *M. cassari* Gatt, 2011 and *M. praecox* (Loew, 1864). In the male they include: 1) several long, spine-like setae on the middle portion of the costal vein; 2) fore tibia with a posterior row of 8-10 long, posteriorly curved setae; 3) mid-femur ventrally in its middle third with a dense tuft of very short setulae, as well as some long setae; 4) mid-basitarsus curved laterally, and ventrally with a long row of hook-like spinules. In at least two of these species where the female terminalia have been studied (*M. cassari* and *M. ebejeri* sp. n.) 5) a completely divided sternite 10 present.

An exclusively setose tergite 10 has previously been reported only in three species of *Microphorella* described from Southeast Asia and New Guinea (Shamshev & Grootaert, 2004) and in *M. cassari* from Tunisia (Gatt, 2011).

Both the male and the female terminalia in this group of species exhibit good morphologically distinguishing characters. In the male, the shape of the hypandrium and cerci, and the morphology of the dorsal expansions of the phallus and of (what has been termed here) the ventral appendage of the left epandrial lamella would appear to be the most useful characters. In the female, valuable differentiating features are provided mostly by the structure of segment 8 and by the shape and arrangement of the various sclerites that (in part) make up the genital fork (sternite 9).

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